

REMARKS

Status of the Application

Claims 2, 3, 23, 24, 33 and 34 are currently amended as described below. Claims 23-28 are currently cancelled. Claims 1, 15-22 and 29-32 have previously been withdrawn. Claims 4-14, 25-28 and 35-39 are in the form as originally filed.

Claims 43-46 are newly added to indicate some specific sphingosine kinases and polynucleotide sequences encoding them, which are well-known in the prior art and also mentioned in the paragraph bridging pages 3 and 4 of the specification. No new matter has been added.

Claim Objections

The Examiner has objected to claims 2-14 and 33-39 because they depend from the previously withdrawn claims 1 or 29-32. Claims 2 and 33 have now been rewritten into independent claims. Accordingly, this objection is now moot.

Rejection Under 35 USC § 112, ¶ 1

The Examiner has rejected claims 1-5, 7-9 under 35 USC § 112, ¶ 1 for the recitation of "analogue, fragment, or derivative thereof". Applicants have removed these terms from the claims. Accordingly, this rejection is now moot.

Rejection Under 35 USC § 102

The Examiner has rejected claims 2, 3, 5, 6, 23-26, 33, 34, 36 and 37 as allegedly anticipated by published PCT patent application WO99/61581, ("*Spiegel*"). Applicants respectfully traverse.

The present invention provides methods of inducing blood vessel formation in an animal, comprising administering to the animal an effective amount of a sphingosine kinase. While *Spiegel* discloses a viral vector for the expression of sphingosine kinase, the expression of the sphingosine kinase is for the direct evaluation of the sphingosine metabolite sphingosine-1-kinase ("SPP") (see specification, page 4, last sentence), for increasing the amount of SPP in a cell or for increasing or reducing cell death (see specification, page 7,

last two paragraphs) or for other indications (see specification, page 8, entire, and page 9, first paragraph). Regarding angiogenesis however, the specification merely mentions the possible involvement of SPP in angiogenesis (not even the expression of sphingosine kinase) in the Technical Background (page 4, line 18). The specification does not disclose how to use the expression of sphingosine kinase to induce blood vessel formation. Therefore, *Spiegel* does not anticipate the claimed invention.

Applicants respectfully request that this rejection be withdrawn.

The Examiner has also rejected claims 2-5, 23-26 and 33-36 as being anticipated U.S. Pat. No. 5,932,540 ("*Hu*"). The Examiner alleges that "the claim encompasses a viral vector comprising a polynucleotide encoding any VEGF and any other amino acid sequence".

Applicant has amended the claims to remove the possibility of "any other amino acid sequence". Accordingly, this rejection is now moot.

Rejection Under 35 USC § 103

The Examiner has rejected claims 2, 3, 5-14, 27, 28, 38 and 39. The Examiner alleges that the claims are obvious in view of published PCT patent application WO99/61581, ("*Spiegel*") alone or in combination with U.S. Pat. No. 6,326,007B1 ("*Yilma*"). Applicants respectfully traverse.


To establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2143. Since neither *Spiegel* nor *Yilma* disclose the method of inducing blood vessel formation, the combination of these references cannot make the present invention obvious.

Applicants respectfully request that this rejection be withdrawn.

In view of the foregoing, Applicants submit the application is now in condition for allowance and respectfully requests early notice to that effect. Favorable consideration of this application is respectfully requested. Should the Examiner have any questions, please contact the undersigned attorney.

Respectfully submitted,

Novartis
Corporate Intellectual Property
One Health Plaza, Building 104
East Hanover, NJ 07936-1080
(617) 871-3346



John Prince
Attorney for Applicants
Reg. No. 43,019

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